

Docket No. 742114-5

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT application of)
Knud Erik BAEKGAARD et al.)
Serial No. 09/688,216) Group Art Unit: 2644
Filed: October 16, 2000) Examiner: L. A. Grier
For: ELECTRONIC STETHOSCOPE)
)

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DECLARATION UNDER 37 CFR 1.132

Commissioner for Patents and Trademarks

Washington, D.C. 20231

Sir:

I, Paul Benkeser, declare as follows:

1. I obtained a Bachelor of Science degree in Electrical Engineering from Purdue University in 1981; a Masters of Science degree in Electrical Engineering from the University of Illinois in 1983; and am currently an Associate Professor in the School of Electrical and Computer Engineering and in the School of Biomedical Engineering at the Georgia Institute of Technology working in the areas of ultrasonic bioengineering, biomedical sensors and transducers, and ultrasonic transducers.

2. As an expert in the field of biomedical transducers, I was provided with a copy of:

- A) A copy of the above-captioned application U.S. Patent Application (The Application).
- B) A copy of U.S. Patent 5,610,987 (Harley).
- C) A copy of U.S. Patent 5,557,681 (Thomasson).
- D) Copy of Pages 3 & 4 of Office Communication issued in connection the above-captioned application.

I was further asked to review these materials and to provide my expert opinion on the relevance of the Harley and Thomasson patents to the invention claimed in The Application.

3. Based on my review of the above documents, I have determined that the manner in which digital filters are used in The Application and as set forth in its "claims" is neither suggested by nor made obvious by either the Harley or Thomasson patents, either individually or viewed together because:

A) The filters in the Harley and Thomasson patents are solely for noise suppression. Use of filters as taught by the Harley and Thomasson patents would not lead to the acoustic response of an acoustic stethoscope. The proposed filtering of The Application will, in effect, add distortion to the sound so that it mimics that of an acoustic stethoscope. In my opinion, this is a fundamentally different use of digital filters than one designed to remove distortion (i.e., noise). Both Thomasson and Harley disclose approaches to remove distortion, not add distortion. This difference strikes at the very core of the problem that manufacturers of electronic stethoscopes are having in getting the health care providers to adopt their superior technologies - the fact that the electronic stethoscopes don't "sound like" the stethoscopes that these professionals were trained on, and because "Old habits are hard to break...."

B) I fail to see how col. 7, lines 5-27 of Harley encompass the production of an impulse transfer function corresponding to that of an acoustic stethoscope. Again, the objectives of The Application and those of the Harley and Thomasson patents are 180 degrees opposed to each other. One is designed to remove distortion the other is designed to add distortion. Thus, an impulse transfer function designed to do one, would not suffice to do the other.

4. The undersigned Declarant hereby declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under

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Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

October 14, 2002

Paul J. Benkesser

Paul J. Benkesser